

This document gives pertinent information concerning the reissuance of the VPDES Permit listed below. This permit is being processed as a Minor, Municipal permit. The discharge results from the operation of a 0.040 MGD wastewater treatment plant. The effluent limitations and special conditions contained in this permit will maintain the Water Quality Standards of 9 VAC 25-260-00 et seq.

1. Facility Name and Mailing Address: Six-O-Five MHP STP
P.O. Box 70367
Richmond, VA 23255
SIC Code: 4952 WWTP
Facility Location: Off Route 605, 0.3 miles NE of State Highway 33
County: Louisa
Facility Contact Name: Michael Cook / Operator
Telephone Number: 804-994-2088
2. Permit No.: VA0090140
Current Expiration Date: 24 May 2009
Other VPDES Permits: Not Applicable
Other Permits: PWSID 2109675 – public water supply
E2/E3/E4 Status: Not Applicable
3. Owner Name: SMG LLC
Owner Contact/Title: James Benson / Managing Member
Telephone Number: 804-399-4916
4. Application Complete Date: 6 February 2009
Permit Drafted By: Douglas Frasier
Date Drafted: 13 February 2009
Draft Permit Reviewed By: Alison Thompson
Date Reviewed: 27 February 2009
Public Comment Period: Start Date: 10 April 2009
End Date: 11 May 2009
5. Receiving Waters Information: See **Attachment 1** for the Flow Frequency Determination
Receiving Stream Name: South Anna River, UT
Drainage Area at Outfall: < 1 square mile
River Mile: 3.6
Stream Basin: York River
Subbasin: None
Section: 3
Stream Class: III
Special Standards: None
Waterbody ID: VAN-F03R
7Q10 Low Flow: 0.0 MGD
7Q10 High Flow: 0.0 MGD
1Q10 Low Flow: 0.0 MGD
1Q10 High Flow: 0.0 MGD
Harmonic Mean Flow: 0.0 MGD
30Q5 Flow: 0.0 MGD
303(d) Listed: No
30Q10 Flow: 0.0 MGD
TMDL Approved: Yes – downstream
Date TMDL Approved: 2 August 2006 – bacteria
6. Statutory or Regulatory Basis for Special Conditions and Effluent Limitations:

<u>✓</u> State Water Control Law <u>✓</u> Clean Water Act <u>✓</u> VPDES Permit Regulation <u>✓</u> EPA NPDES Regulation	<u>✓</u> EPA Guidelines (40 CFR Part 133) <u>✓</u> Water Quality Standards <u> </u> Other
---	--
7. Licensed Operator Requirements: Class III
8. Reliability Class: Class II

9. Permit Characterization:

<input checked="" type="checkbox"/> Private	<input checked="" type="checkbox"/> Effluent Limited	<input type="checkbox"/> Possible Interstate Effect
<input type="checkbox"/> Federal	<input checked="" type="checkbox"/> Water Quality Limited	<input type="checkbox"/> Compliance Schedule Required
<input type="checkbox"/> State	<input type="checkbox"/> Toxics Monitoring Program Required	<input type="checkbox"/> Interim Limits in Permit
<input type="checkbox"/> POTW	<input type="checkbox"/> Pretreatment Program Required	<input type="checkbox"/> Interim Limits in Other Document
<input checked="" type="checkbox"/> TMDL		

10. Wastewater Sources and Treatment Description:

This facility is a privately owned treatment works with a design flow of 0.040 MGD, serving 104 units with a population between 250-300 residents.

The facility consists of an above ground sequencing batch reactor (SBR) package plant. Treatment units consist of Influent Pumping, Preliminary Screening, Equalization tank, SBR unit, Tertiary mixed media filtration and Post aeration prior to disinfection by ultraviolet (UV) radiation. The outfall is shore based, discharging to a small unnamed tributary (UT) to the South Anna River.

See **Attachment 2** for a facility schematic/diagram.

TABLE 1 OUTFALL DESCRIPTION				
Outfall Number	Discharge Sources	Treatment	Design Flow	Outfall Latitude and Longitude
001	Domestic Wastewater	See Item 10 above.	0.040 MGD	37° 58' 14" N 77° 54' 59" W
See Attachment 3 for a copy of the Pendleton Quad - #151B topographic map.				

11. Sludge Treatment and Disposal Methods:

Sludge is held in an aerobic sludge holding tank/digester and hauled to the Little Falls Run WWTF (VA0076392) for further treatment and final disposal.

12. Discharges, Intakes, Monitoring Stations, Other Items in Vicinity of Discharge:

TABLE 2 DISCHARGES, INTAKES & MONITORING STATIONS		
ID / Permit Number	Description	Latitude / Longitude
VA0067954	Louisa Regional Wastewater Treatment Plant	38° 00' 30" / 77° 59' 38"
VA0058891	Northeast Creek Water Treatment Plant	37° 58' 36" / 77° 56' 27"
8-SAR052.03	DEQ Monitoring Station – South Anna River at Route 601	37° 50' 15" / 77° 53' 27"

13. Material Storage:

TABLE 3 MATERIAL STORAGE		
Materials Description	Volume Stored	Spill / Stormwater Prevention Measures
Diesel Fuel	Above ground fuel tank for emergency generator	Not Applicable

14. **Site Inspection:** Performed by NRO staff on 26 February 2007 (see **Attachment 4**).

15. **Receiving Stream Water Quality and Water Quality Standards:**

a. Ambient Water Quality Data

There is no DEQ ambient monitoring data for the receiving stream. The nearest monitoring station is 8-SAR052.03, located on the South Anna River at the Route 601 bridge crossing; approximately 18.2 river miles downstream of Outfall 001.

Downstream impairments for Recreational Use, due to bacteria exceedances, have been identified on the South Anna River. A TMDL has been developed and was approved by EPA on 2 August 2006. The receiving stream was not specifically included in the TMDL, but all upstream point sources discharging the pollutant of concern were given a wasteload allocation. This facility was given a WLA of 6.96×10^{10} cfu/year for *E. coli*.

b. Receiving Stream Water Quality Criteria

Part IX of 9 VAC 25-260(360-550) designates classes and special standards applicable to defined Virginia river basins and sections. The receiving stream South Anna River, UT, is located within Section 3 of the York River Basin and classified as Class III water.

At all times, Class III waters must achieve a dissolved oxygen (D.O.) of 4.0 mg/L or greater, a daily average D.O. of 5.0 mg/L or greater, a temperature that does not exceed 32°C and maintain a pH of 6.0 – 9.0 standard units (S.U.).

Attachment 5 details other water quality criteria applicable to the receiving stream.

Ammonia:

Staff has re-evaluated effluent pH data for 2004 – 2008 and it is staff's best professional judgement to utilize 7.7 S.U. for this reissuance since this best represents current operations. Temperature values of 20°C and 15°C for summer and winter, respectively, were used in order to establish the ammonia criteria and subsequent effluent limits for this reissuance. These temperature values represent those used in the stream model that was completed in 1999 for this facility.

Bacteria Criteria:

The Virginia Water Quality Standards (9 VAC 25-260-170.B.) states sewage discharges shall be disinfected to achieve the following criteria:

E. coli bacteria per 100 mL of water shall not exceed the following:

	Geometric Mean ¹	Single Sample Maximum
Freshwater <i>E. coli</i> (N/100 mL)	126	235

¹For two or more samples taken during any calendar month

c. Receiving Stream Special Standards

The State Water Control Board's Water Quality Standards, River Basin Section Tables (9 VAC 25-260-360, 370 and 380) designates the river basins, sections, classes and special standards for surface waters of the Commonwealth of Virginia. The receiving stream, South Anna River, UT, is located within Section 3 of the York River Basin. This section has not been designated with a special standard.

d. Threatened or Endangered Species

The Virginia DGIF Fish and Wildlife Information System Database was searched for records to determine if there are threatened or endangered species in the vicinity of the discharge. The following threatened or endangered species were identified within a 2 mile radius of the discharge: Upland Sandpiper (song bird), Loggerhead Shrike (song bird), Bald Eagle and Migrant Loggerhead Shrike (song bird). The limits proposed in this draft permit are protective of the Virginia Water Quality Standards and therefore, protect the threatened and endangered species found near the discharge.

16. Antidegradation (9 VAC 25-260-30):

All state surface waters are provided one of three levels of antidegradation protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier 2 water bodies have water quality that is better than the water quality standards. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 water bodies are exceptional waters and are so designated by regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters.

The receiving stream has been classified as Tier 2. Even though the receiving stream is intermittent with critical flows of zero, the stream becomes perennial approximately 0.7 miles downstream of the discharge and there is no data available indicating that water quality standards are being violated in the perennial portion of the receiving stream. No significant degradation to the existing water quality will be allowed. In accordance with current DEQ guidance, no significant lowering of water quality is to occur where permit limits are based on the following:

- The dissolved oxygen in the receiving stream is not lowered more than 0.2 mg/L from the existing levels;
- The pH of the receiving stream is maintained within the range 6.0-9.0 S.U.;
- There is compliance with all temperature criteria applicable to the receiving stream;
- No more than 25% of the unused assimilative capacity is allocated for toxic criteria established for the protection of aquatic life; and
- No more than 10% of the unused assimilative capacity is allocated for criteria for the protection of human health.

The antidegradation policy also prohibits the expansion of mixing zones to Tier 2 waters unless the requirements of 9 VAC 25-260-30.A.2. are met. The draft permit is not proposing an expansion of the existing mixing zone.

17. Effluent Screening, Wasteload Allocation, and Effluent Limitation Development:

To determine water quality-based effluent limitations for a discharge, the suitability of data must first be determined. Data is suitable for analysis if one or more representative data points are equal to or above the quantification level ("QL") and the data represent the exact pollutant being evaluated.

Next, the appropriate Water Quality Standards (WQS) are determined for the pollutants in the effluent. Then, the Wasteload Allocations (WLAs) are calculated. In this case since the critical flows 7Q10 and 1Q10 have been determined to be zero, the WLAs are equal to the WQS. The WLA values are then compared with available effluent data to determine the need for effluent limitations. Effluent limitations are needed if the 97th percentile of the daily effluent concentration values is greater than the acute wasteload allocation or if the 97th percentile of the four-day average effluent concentration values is greater than the chronic wasteload allocation. Effluent limitations are based on the most limiting WLA, the required sampling frequency and statistical characteristics of the effluent data.

a. Effluent Screening

Effluent data obtained from the 2004 – 2008 Discharge Monitoring Reports (DMRs) has been reviewed and determined to be suitable for evaluation. Effluent data is located in the reissuance file.

b. Mixing Zones and Wasteload Allocations (WLAs)

Since the receiving stream has been determined to be Tier II water, staff must determine antidegradation wasteload allocations (AWLAs). The steady state complete mix equation is used substituting the antidegradation baseline (C_b) for the in-stream water quality criteria (C_o):

$$AWLA = \frac{C_b (Q_e + Q_s) - (C_s) (Q_s)}{Q_e}$$

Where:

AWLA	=	Antidegradation-based wasteload allocation
C_b	=	In-stream antidegradation baseline concentration
Q_e	=	Design flow
Q_s	=	Critical receiving stream flow (1Q10 for acute aquatic life criteria; 7Q10 for chronic aquatic life criteria; harmonic mean for carcinogen-human health criteria; 30Q10 for ammonia criteria; and 30Q5 for non-carcinogen human health criteria)
C_s	=	Mean background concentration of parameter in the receiving stream.

Calculated AWLAs for the pollutants noted in 17.b. above are presented in **Attachment 5**.

c. Effluent Limitations, Outfall 001 – Toxic Pollutants

9 VAC 25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an in-stream excursion of water quality criteria. Those parameters with WLAs that are near effluent concentrations are evaluated for limits.

The VPDES Permit Regulation at 9 VAC 25-31-230.D. requires that monthly and weekly average limitations be imposed for continuous discharges from POTWs and monthly average and daily maximum limitations be imposed for all other continuous non-POTW discharges.

Ammonia as N:

Staff utilized the current effluent pH data to ascertain the criteria and subsequent limitation for ammonia. However, the proposed limitation would allow a relaxation of the current limit of 1.1 mg/L. It is staff's best professional judgement that the aforementioned existing limitation be carried forward with this reissuance due to antibacksliding provisions. Please see **Attachment 6** for the derivation of the ammonia limitations.

d. Effluent Limitations and Monitoring, Outfall 001 – Conventional and Non-Conventional Pollutants

No changes to Dissolved Oxygen (D.O.), carbonaceous – Biochemical Oxygen Demand-5 day (cBOD₅), Total Suspended Solids (TSS), Ammonia and pH limitations are proposed.

Dissolved Oxygen and cBOD₅ limitations are based on the stream modeling conducted in March 1999 (**Attachment 7**) and are set to meet the water quality criteria for D.O. in the receiving stream.

pH limitations are set at the water quality criteria.

E. coli limitations are in accordance with the Water Quality Standards 9 VAC 25-260-170.

e. Effluent Limitations and Monitoring Summary

The effluent limitations are presented in the following table. Limits were established for cBOD₅, Total Suspended Solids, Ammonia, pH, Dissolved Oxygen and *E. coli*.

The limit for Total Suspended Solids is based on Federal Effluent Standards for Secondary Treatment.

The mass loadings (kg/d), for monthly and weekly averages, were calculated by multiplying the concentration values (mg/L), with the flow values (in MGD) and a conversion factor of 3.785.

Sample Type and Frequency are in accordance with the recommendations in the VPDES Permit Manual.

The VPDES Permit Regulation at 9 VAC 25-31-30 and 40 CFR Part 133 require that the facility achieve at least 85% removal for cBOD₅ and TSS (or 65% for equivalent to secondary). This permit requires influent BOD₅ and TSS monitoring on an annual basis to demonstrate 85% removal.

18. Antibacksliding:

All limits in this permit are at least as stringent as those previously established. Backsliding does not apply to this reissuance.

VPDES PERMIT PROGRAM FACT SHEET

VA0090140
PAGE 6 of 8**19. Effluent Limitations/Monitoring Requirements:**

Design flow is 0.040 MGD.

Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS						MONITORING REQUIREMENTS	
		Monthly Average		Weekly Average		Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NL		N/A		N/A	NL	1/D	EST
pH	3	N/A		N/A		6.0 S.U.	9.0 S.U.	1/D	Grab
cBOD ₅ (November – April)	3,4	23 mg/L	3.5 kg/day	34 mg/L	5.2 kg/day	N/A	N/A	1/M	Grab
cBOD ₅ (May – October)	3,4	7.5 mg/L	1.1 kg/day	11 mg/L	1.7 kg/day	N/A	N/A	1/M	Grab
Total Suspended Solids (TSS)	1,2	30 mg/L	4.5 kg/day	45 mg/L	6.8 kg/day	N/A	N/A	1/M	Grab
Influent TSS	2	N/A		N/A		N/A	NL	1/Y	Grab
Influent BOD ₅	2	N/A		N/A		N/A	NL	1/Y	Grab
DO	3,4	N/A		N/A		6.5 mg/L	N/A	1/D	Grab
Ammonia, as N	3,4	1.1 mg/L		1.1 mg/L		N/A	N/A	1/M	Grab
<i>E. coli</i> (Geometric Mean)	3	126 n/100mL		N/A		N/A	N/A	1/W	Grab

The basis for the limitations codes are:

1. Federal Effluent Requirements
2. Best Professional Judgement
3. Water Quality Standards
4. Stream Model – **Attachment 7**

MGD = Million gallons per day.*N/A* = Not applicable.*NL* = No limit; monitor and report.*S.U.* = Standard units.*1/D* = Once every day.*1/W* = Once every week.*1/M* = Once every month.*1/Y* = Once every year.

EST = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

20. Other Permit Requirements:

Part I.B. of the permit contains quantification levels and compliance reporting instructions.

9 VAC 25-31-190.L.4.c. requires an arithmetic mean for measurement averaging and 9 VAC 25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an in-stream excursion of water quality criteria. Specific analytical methodologies for toxics are listed in this permit section as well as quantification levels (QLs) necessary to demonstrate compliance with applicable permit limitations or for use in future evaluations to determine if the pollutant has reasonable potential to cause or contribute to a violation. Required averaging methodologies are also specified.

21. Other Special Conditions:

- a. 95% Capacity Reopener. The VPDES Permit Regulation at 9 VAC 25-31-200.B.2. requires all POTWs and PVOTWs develop and submit a plan of action to DEQ when the monthly average influent flow to their sewage treatment plant reaches 95% or more of the design capacity authorized in the permit for each month of any three consecutive month period. The facility is a PVOTW.
- b. Indirect Dischargers. Required by VPDES Permit Regulation, 9 VAC 25-31-280 B.9 for POTWs and PVOTWs that receive waste from someone other than the owner of the treatment works.
- c. O&M Manual Requirement. Required by Code of Virginia §62.1-44.19; Sewage Collection and Treatment Regulations, 9 VAC 25-790; VPDES Permit Regulation, 9 VAC 25-31-190.E. On or before 24 August 2009, the permittee shall submit for approval an Operations and Maintenance (O&M) Manual or a statement confirming the accuracy and completeness of the current O&M Manual to the Department of Environmental Quality, Northern Regional Office (DEQ-NRO). Future changes to the facility must be addressed by the submittal of a revised O&M Manual within 90 days of the changes. Non-compliance with the O&M Manual shall be deemed a violation of the permit.
- d. CTC, CTO Requirement. The Code of Virginia § 62.1-44.19; Sewage Collection and Treatment Regulations, 9 VAC 25-790 requires that all treatment works treating wastewater obtain a Certificate to Construct prior to commencing construction and to obtain a Certificate to Operate prior to commencing operation of the treatment works.
- e. Licensed Operator Requirement. The Code of Virginia at §54.1-2300 et seq. and the VPDES Permit Regulation at 9 VAC 25-31-200 D, and Rules and Regulations for Waterworks and Wastewater Works Operators (18 VAC 160-20-10 et seq.) requires licensure of operators. This facility requires a Class III operator.
- f. Reliability Class. The Sewage Collection and Treatment Regulation at 9 VAC 25-790 requires sewerage works achieve a certain level of reliability in order to protect water quality and public health consequences in the event of component or system failure. The facility is required to meet reliability Class II.
- g. Sludge Reopener. The VPDES Permit Regulation at 9 VAC 25-31-200.C.4. requires all permits issued to treatment works treating domestic sewage (including sludge-only facilities) include a reopener clause allowing incorporation of any applicable standard for sewage sludge use or disposal promulgated under Section 405(d) of the CWA. The facility includes a sewage treatment works.
- h. Sludge Use and Disposal. The VPDES Permit Regulation at 9 VAC 25-31-100.P., 220.B.2., and 420-720, and 40 CFR Part 503 require all treatment works treating domestic sewage to submit information on their sludge use and disposal practices and to meet specified standards for sludge use and disposal. The facility includes a treatment works treating domestic sewage.
- i. TMDL Reopener. This special condition is to allow the permit to be reopened if necessary to bring it into compliance with any applicable TMDL that may be developed and approved for the receiving stream.

22. Permit Section Part II: Part II of the permit contains standard conditions that appear in all VPDES Permits. In general, these standard conditions address the responsibilities of the permittee, reporting requirements, testing procedures and records retention.**23. Changes to the Permit from the Previously Issued Permit:**

- a. Special Conditions:
 - CTC, CTO Requirement was included with this reissuance.
- b. Monitoring and Effluent Limitations:
 - Annual influent BOD₅ and TSS monitoring have been added with this reissuance to demonstrate 85% removal.
- c. Other:
 - Licensed Operator Requirements was revised from a Class II to a Class III based on the flow and type of treatment at this facility (*Sewage Collection & Treatment Regulations* 9 VAC 25-790).

24. Variances/Alternate Limits or Conditions: None.**25. Public Notice Information:**

First Public Notice Date: 9 April 2009 Second Public Notice Date: 16 April 2009

Public Notice Information is required by 9 VAC 25-31-280.B. All pertinent information is on file and may be inspected and copied by contacting the: DEQ Northern Regional Office, 13901 Crown Court, Woodbridge, VA 22193, Telephone No. (703) 583-3873, ddfrasier@deq.virginia.gov. See **Attachment 8** for a copy of the public notice document.

Persons may comment in writing or by email to the DEQ on the proposed permit action, and may request a public hearing, during the comment period. Comments shall include the name, address, and telephone number of the writer and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The DEQ may decide to hold a public hearing if public response is significant. Requests for public hearings shall state the reason why a hearing is requested, the nature of the issues proposed to be raised in the public hearing and a brief explanation of how the requester's interests would be directly and adversely affected by the proposed permit action. Following the comment period, the Board will make a determination regarding the proposed permit action. This determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will be given.

26. 303 (d) Listed Stream Segments and Total Max. Daily Loads (TMDL):

This facility was given a WLA for *E. coli* of 6.96×10^{10} cfu/year per the bacteria TMDL, approved by EPA on 2 August 2006. The bacteria limitations proposed in this reissuance should not contribute to the further downstream impairment nor exceed the WLA under the TMDL.

27. Additional Comments:

Previous Board Action(s): The facility entered a Special Consent Order in April 2008 due to effluent violations and maintenance concerns. The Order increased the monitoring frequency for cBOD₅, TSS and Ammonia to 2/M for a period of six (6) months. It also required that the Operations & Maintenance Manual be updated and submission of completed maintenance schedules. The facility satisfied the requirements set forth in the Order, which was closed in November 2008.

Staff Comments: None.

Public Comment: No comments were received during the public notice.

EPA Checklist: The checklist can be found in **Attachment 9**.

Fact Sheet Attachments

Table of Contents

Six-O-Five Mobile Home Park STP
VA0090140
2009 Reissuance

Attachment 1	Flow Frequency Determination
Attachment 2	Facility Schematic/Diagram
Attachment 3	Topographic Map
Attachment 4	Inspection Summary Report
Attachment 5	Wasteload Allocation Analyses
Attachment 6	Ammonia Limitation Derivation
Attachment 7	March 1999 Stream Model
Attachment 8	Public Notice
Attachment 9	EPA Checklist

RECEIVING WATERS INFORMATION

Receiving Stream: South Anna River, U.T.

Flow: At the discharge point, the receiving stream is intermittent with critical flows of zero. The stream becomes perennial at a point approximately 0.7 miles downstream of the discharge. At the point at which the stream becomes perennial, the flows are as follows:

1Q10:	0.003 MGD
7Q10:	0.003 MGD
30Q5:	0.014 MGD
High Flow 1Q10:	0.043 MGD
High Flow 7Q10:	0.054 MGD
Harmonic Mean:	0.061 MGD

The high flow months are November through April.

Source: DEQ Analysis (October 20, 1998)

Temperature, hardness, and pH:

The discharge is to an intermittent stream with critical flows of zero, therefore temperature, hardness, and pH characteristics are not applicable for modeling that portion. For the first 0.7 mile segment, the stream is modeled using the assumed effluent characteristics for both receiving stream and effluent.

For the antidegradation review, the characteristics of the perennial portion of the receiving stream are as follows:

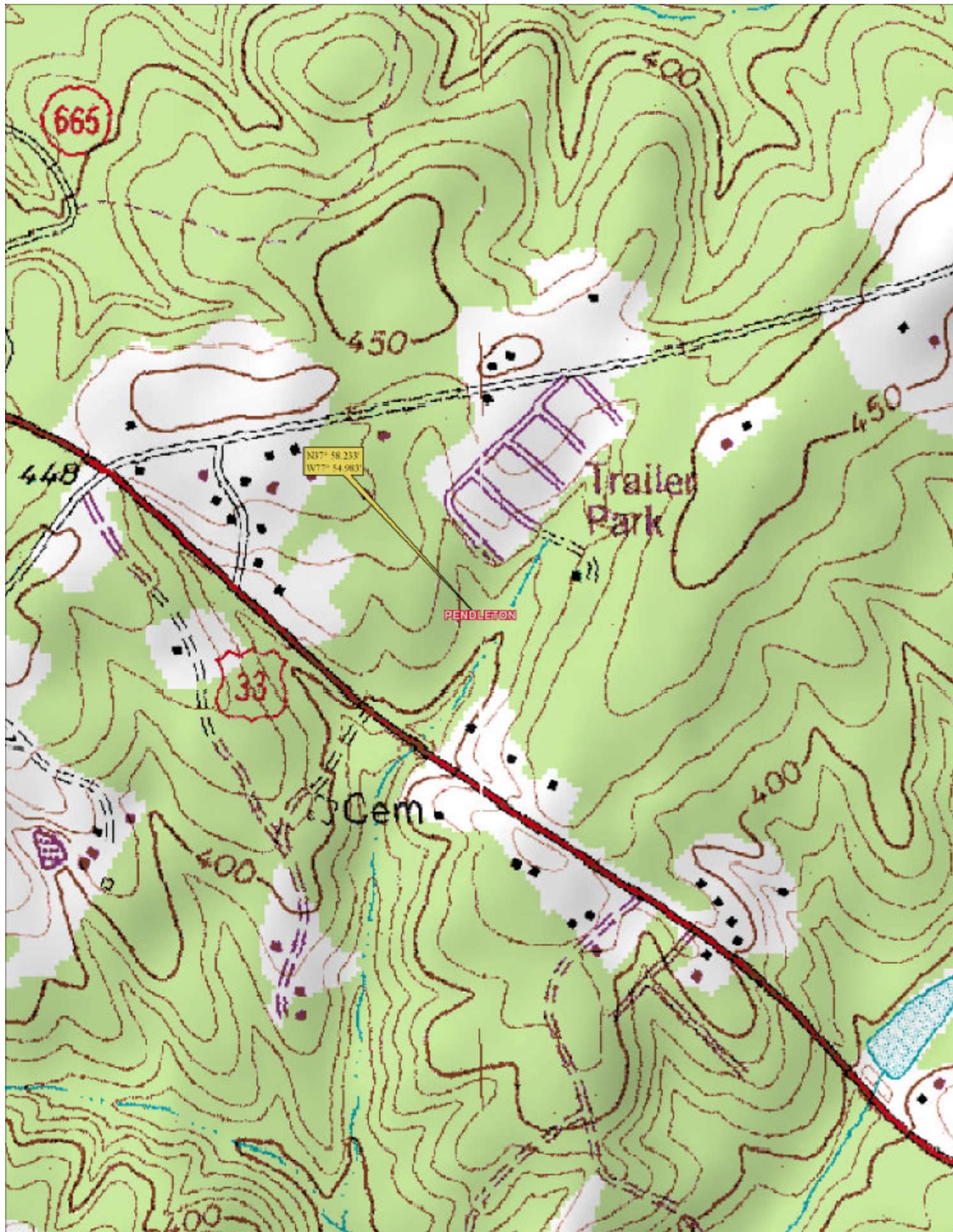
pH : Annual 90% = 7.4
Annual 10% = 6.0
(Source: STORET data station 8-SAR068.57)

Temperature: 25 °C
15 °C
(Source: Best Professional Judgement due to lack of adequate site-specific data.)

Hardness: 27 mg/l
(Source: STORET data station 8-SAR068.57)

Toxics Data:

The receiving stream is intermittent, therefore all toxic pollutant concentrations for this point are assumed to be zero. There are no data available at the perennial point so all toxic pollutant concentrations for this point are assumed to be zero, also.



March 26, 2007

Jimmy Benson
P.O. Box 70367
Richmond, VA. 23255

Re: Facility Name – **Six O Five Village Mobile Home Park - STP; Permit VA0090140**

Dear Mr. Benson:

Attached is a copy of the Site Inspection Report generated from the Facility Compliance Inspection conducted at Six O Five Village Mobile Home Park – Sewage Treatment Plant (STP) on February 26, 2007.

A written response concerning the items listed in the Compliance Section – Inspection violations is due to this office by **April 27, 2007**. Included in this response should be a plan of action and timetable for resolving these compliance issues, if they have not already been addressed.

If you have any questions or comments concerning this report, please feel free to contact me at the Northern Virginia Regional Office at (703) 583-3882 or by E-mail at smmack@deq.virginia.gov.

Sincerely,

Sharon Mack
Environmental Specialist II

cc: Permits / DMR File
Compliance Manager
Compliance Auditor
Compliance Inspector
Enforcement
Mike Cook – Tetra Ops



NORTHERN VIRGINIA REGIONAL OFFICE
13901 CROWN COURT, WOODBRIDGE, VA. 22193
PHONE: (703) 583-3870 FAX: (703) 583-3871

SITE INSPECTION REPORT

FACILITY NAME:	Six O Five Village Mobile Home Park - STP				
PERMIT NUMBER:	VA 0090140	INSPECTION DATE:	02/26/07	REPORT DATE:	03/26/07
INSPECTOR:	Sharon Mack	REVIEWER	DATE		
PRESENT AT INSPECTION:	Joe Trocchio – waste inspector Mike Cook - TetraOps				

Inspection Type:

<input type="checkbox"/>	Compliance	WL/NOV#:	<input type="checkbox"/>	Announced
<input type="checkbox"/>	Sampling		<input type="checkbox"/>	Scheduled
<input checked="" type="checkbox"/>	Other: Recon			

Observation Section:

- Arrived on site 1330 with Joe Trocchio.
- The weather was partly cloudy, cold and windy. Snow over weekend – mostly melted.
- Met Mike Cook, plant operator, and toured facility.
- Mike stated that the mobile home park and plant had experienced a power failure approximately two weeks earlier and the backup generator had performed as intended.
- There was a large puddle alongside the Sequential Batch Reactor (SBR). Mike said that water from rain/snow runs off the small hill on the other side of the access road and pools around the SBR. The puddle did contain reddish sediment similar to the soil color (photos 1).
- The SBR was not in a discharge phase during the inspection.

- The filters are still off-line and flow is being bypassed around them. Staff hopes to remove the old media and clean the collection pipes this spring, then replace the media with appropriate material.
- The UV system was cleaned two weeks earlier. The intensity meter was blinking 0.2 mw/cm²; when Mike arrived earlier, the meter was reading 2.4 mw/cm². No water was being passed through the system during the inspection.
- Rags cleaned out of the UV channel had been left on the ground alongside the tank (photo 2).
- The v-notch weir originally installed for flow measurement was removed to facilitate cleaning of the tank and has never been replaced. Effluent flow is estimated based on the number of batches processed by the SBR (photo 3).
- Walked to Outfall 001. The stream bank has been stabilized to correct/prevent erosion from the discharge stream running into the stream.
- There was no discharge; however, plastics/paper material that had apparently passed through the plant was found on the side of the creek bank in the route the discharge water follows to reach the stream. Mike said he would clean them up immediately (photos 5 and 6).
- The bar screen at the influent pump station was clean and rags being disposed of properly. No indications of overflow.

PHOTOGRAPH LOG

- Photos were taken by S. Mack
- Photos can be located on the DEQ U drive @ Photos - Water Facilities – Six-0-Fve Village MHP STP – 02-26-07.
- Photos are included with this report.

Compliance Section:

INSPECTION VIOLATION(S):

- Rags in the effluent discharge path and in the stream.

INSPECTION RECCOMENDATION(S):

- Submit a written schedule for completion of the filter rehab project. If it is determined that the plant effluent limits can be met without using the filters and the owner chooses to discontinue use of the filters, staff should contact the permit writer for the proper procedure to make this change. At minimum, the facility's O&M Manual must be updated to reflect the change.
- Submit an update to the O&M manual indicating that the v-notch weir is no longer in use for flow measurement and describe procedure for estimating discharge flow.
- Determine the cause of the paper in the stream and on the stream bank and submit an explanation and steps taken to correct the problem and prevent future occurrences.

Sampling Section: NA

FRESHWATER WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name: **Six-O-Five MHP**

Permit No.: **VA0090140**

Receiving Stream: **South Anna River, UT**

Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information

Mean Hardness (as CaCO3) =	26 mg/L
90% Temperature (Annual) =	23.1 deg C
90% Temperature (Wet season) =	deg C
90% Maximum pH =	7.7 SU
10% Maximum pH =	SU
Tier Designation (1 or 2) =	2
Public Water Supply (PWS) Y/N? =	n
Trout Present Y/N? =	n
Early Life Stages Present Y/N? =	y

Stream Flows

1Q10 (Annual) =	0 MGD
7Q10 (Annual) =	0 MGD
30Q10 (Annual) =	0 MGD
1Q10 (Wet season) =	0 MGD
30Q10 (Wet season) =	0 MGD
30Q5 =	0 MGD
Harmonic Mean =	0 MGD
Annual Average =	0 MGD

Mixing Information

Annual - 1Q10 Mix =	100 %
- 7Q10 Mix =	100 %
- 30Q10 Mix =	100 %
Wet Season - 1Q10 Mix =	0 %
- 30Q10 Mix =	0 %

Effluent Information

Mean Hardness (as CaCO3) =	50 mg/L
90% Temp (Annual) =	20 deg C
90% Temp (Wet season) =	15 deg C
90% Maximum pH =	7.7 SU
10% Maximum pH =	SU
Discharge Flow =	0.04 MGD

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Acenaphthene	0	--	--	na	2.7E+03	--	--	na	2.7E+03	--	--	na	2.7E+02	--	--	na	2.7E+02	--	--	na	2.7E+02
Acrolein	0	--	--	na	7.8E+02	--	--	na	7.8E+02	--	--	na	7.8E+01	--	--	na	7.8E+01	--	--	na	7.8E+01
Acrylonitrile ^C	0	--	--	na	6.6E+00	--	--	na	6.6E+00	--	--	na	6.6E-01	--	--	na	6.6E-01	--	--	na	6.6E-01
Aldrin ^C	0	3.0E+00	--	na	1.4E-03	3.0E+00	--	na	1.4E-03	7.5E-01	--	na	1.4E-04	7.5E-01	--	na	1.4E-04	7.5E-01	--	na	1.4E-04
Ammonia-N (mg/l) (Yearly)	0	1.44E+01	2.51E+00	na	--	1.4E+01	2.5E+00	na	--	3.61E+00	6.28E-01	na	--	3.6E+00	6.3E-01	na	--	3.6E+00	6.3E-01	na	--
Ammonia-N (mg/l) (High Flow)	0	1.44E+01	3.47E+00	na	--	1.4E+01	3.5E+00	na	--	3.61E+00	8.67E-01	na	--	3.6E+00	8.7E-01	na	--	3.6E+00	8.7E-01	na	--
Anthracene	0	--	--	na	1.1E+05	--	--	na	1.1E+05	--	--	na	1.1E+04	--	--	na	1.1E+04	--	--	na	1.1E+04
Antimony	0	--	--	na	4.3E+03	--	--	na	4.3E+03	--	--	na	4.3E+02	--	--	na	4.3E+02	--	--	na	4.3E+02
Arsenic	0	3.4E+02	1.5E+02	na	--	3.4E+02	1.5E+02	na	--	8.5E+01	3.8E+01	na	--	8.5E+01	3.8E+01	na	--	8.5E+01	3.8E+01	na	--
Barium	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Benzene ^C	0	--	--	na	7.1E+02	--	--	na	7.1E+02	--	--	na	7.1E+01	--	--	na	7.1E+01	--	--	na	7.1E+01
Benzidine ^C	0	--	--	na	5.4E-03	--	--	na	5.4E-03	--	--	na	5.4E-04	--	--	na	5.4E-04	--	--	na	5.4E-04
Benzo (a) anthracene ^C	0	--	--	na	4.9E-01	--	--	na	4.9E-01	--	--	na	4.9E-02	--	--	na	4.9E-02	--	--	na	4.9E-02
Benzo (b) fluoranthene ^C	0	--	--	na	4.9E-01	--	--	na	4.9E-01	--	--	na	4.9E-02	--	--	na	4.9E-02	--	--	na	4.9E-02
Benzo (k) fluoranthene ^C	0	--	--	na	4.9E-01	--	--	na	4.9E-01	--	--	na	4.9E-02	--	--	na	4.9E-02	--	--	na	4.9E-02
Benzo (a) pyrene ^C	0	--	--	na	4.9E-01	--	--	na	4.9E-01	--	--	na	4.9E-02	--	--	na	4.9E-02	--	--	na	4.9E-02
Bis(2-Chloroethyl) Ether	0	--	--	na	1.4E+01	--	--	na	1.4E+01	--	--	na	1.4E+00	--	--	na	1.4E+00	--	--	na	1.4E+00
Bis(2-Chloroisopropyl) Ether	0	--	--	na	1.7E+05	--	--	na	1.7E+05	--	--	na	1.7E+04	--	--	na	1.7E+04	--	--	na	1.7E+04
Bromoform ^C	0	--	--	na	3.6E+03	--	--	na	3.6E+03	--	--	na	3.6E+02	--	--	na	3.6E+02	--	--	na	3.6E+02
Butylbenzylphthalate	0	--	--	na	5.2E+03	--	--	na	5.2E+03	--	--	na	5.2E+02	--	--	na	5.2E+02	--	--	na	5.2E+02
Cadmium	0	1.8E+00	6.6E-01	na	--	1.8E+00	6.6E-01	na	--	4.5E-01	1.6E-01	na	--	4.5E-01	1.6E-01	na	--	4.5E-01	1.6E-01	na	--
Carbon Tetrachloride ^C	0	--	--	na	4.4E+01	--	--	na	4.4E+01	--	--	na	4.4E+00	--	--	na	4.4E+00	--	--	na	4.4E+00
Chlordane ^C	0	2.4E+00	4.3E-03	na	2.2E-02	2.4E+00	4.3E-03	na	2.2E-02	6.0E-01	1.1E-03	na	2.2E-03	6.0E-01	1.1E-03	na	2.2E-03	6.0E-01	1.1E-03	na	2.2E-03
Chloride	0	8.6E+05	2.3E+05	na	--	8.6E+05	2.3E+05	na	--	2.2E+05	5.8E+04	na	--	2.2E+05	5.8E+04	na	--	2.2E+05	5.8E+04	na	--
TRC	0	1.9E+01	1.1E+01	na	--	1.9E+01	1.1E+01	na	--	4.8E+00	2.8E+00	na	--	4.8E+00	2.8E+00	na	--	4.8E+00	2.8E+00	na	--
Chlorobenzene	0	--	--	na	2.1E+04	--	--	na	2.1E+04	--	--	na	2.1E+03	--	--	na	2.1E+03	--	--	na	2.1E+03

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Chlorodibromomethane ^C	0	--	--	na	3.4E+02	--	--	na	3.4E+02	--	--	na	3.4E+01	--	--	na	3.4E+01	--	--	na	3.4E+01
Chloroform ^C	0	--	--	na	2.9E+04	--	--	na	2.9E+04	--	--	na	2.9E+03	--	--	na	2.9E+03	--	--	na	2.9E+03
2-Chloronaphthalene	0	--	--	na	4.3E+03	--	--	na	4.3E+03	--	--	na	4.3E+02	--	--	na	4.3E+02	--	--	na	4.3E+02
2-Chlorophenol	0	--	--	na	4.0E+02	--	--	na	4.0E+02	--	--	na	4.0E+01	--	--	na	4.0E+01	--	--	na	4.0E+01
Chlorpyrifos	0	8.3E-02	4.1E-02	na	--	8.3E-02	4.1E-02	na	--	2.1E-02	1.0E-02	na	--	2.1E-02	1.0E-02	na	--	2.1E-02	1.0E-02	na	--
Chromium III	0	3.2E+02	4.2E+01	na	--	3.2E+02	4.2E+01	na	--	8.1E+01	1.1E+01	na	--	8.1E+01	1.1E+01	na	--	8.1E+01	1.1E+01	na	--
Chromium VI	0	1.6E+01	1.1E+01	na	--	1.6E+01	1.1E+01	na	--	4.0E+00	2.8E+00	na	--	4.0E+00	2.8E+00	na	--	4.0E+00	2.8E+00	na	--
Chromium, Total	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Chrysene ^C	0	--	--	na	4.9E-01	--	--	na	4.9E-01	--	--	na	4.9E-02	--	--	na	4.9E-02	--	--	na	4.9E-02
Copper	0	7.0E+00	5.0E+00	na	--	7.0E+00	5.0E+00	na	--	1.7E+00	1.2E+00	na	--	1.7E+00	1.2E+00	na	--	1.7E+00	1.2E+00	na	--
Cyanide	0	2.2E+01	5.2E+00	na	2.2E+05	2.2E+01	5.2E+00	na	2.2E+05	5.5E+00	1.3E+00	na	2.2E+04	5.5E+00	1.3E+00	na	2.2E+04	5.5E+00	1.3E+00	na	2.2E+04
DDD ^C	0	--	--	na	8.4E-03	--	--	na	8.4E-03	--	--	na	8.4E-04	--	--	na	8.4E-04	--	--	na	8.4E-04
DDE ^C	0	--	--	na	5.9E-03	--	--	na	5.9E-03	--	--	na	5.9E-04	--	--	na	5.9E-04	--	--	na	5.9E-04
DDT ^C	0	1.1E+00	1.0E-03	na	5.9E-03	1.1E+00	1.0E-03	na	5.9E-03	2.8E-01	2.5E-04	na	5.9E-04	2.8E-01	2.5E-04	na	5.9E-04	2.8E-01	2.5E-04	na	5.9E-04
Demeton	0	--	1.0E-01	na	--	--	1.0E-01	na	--	--	2.5E-02	na	--	--	2.5E-02	na	--	--	2.5E-02	na	--
Dibenz(a,h)anthracene ^C	0	--	--	na	4.9E-01	--	--	na	4.9E-01	--	--	na	4.9E-02	--	--	na	4.9E-02	--	--	na	4.9E-02
Dibutyl phthalate	0	--	--	na	1.2E+04	--	--	na	1.2E+04	--	--	na	1.2E+03	--	--	na	1.2E+03	--	--	na	1.2E+03
Dichloromethane (Methylene Chloride) ^C	0	--	--	na	1.6E+04	--	--	na	1.6E+04	--	--	na	1.6E+03	--	--	na	1.6E+03	--	--	na	1.6E+03
1,2-Dichlorobenzene	0	--	--	na	1.7E+04	--	--	na	1.7E+04	--	--	na	1.7E+03	--	--	na	1.7E+03	--	--	na	1.7E+03
1,3-Dichlorobenzene	0	--	--	na	2.6E+03	--	--	na	2.6E+03	--	--	na	2.6E+02	--	--	na	2.6E+02	--	--	na	2.6E+02
1,4-Dichlorobenzene	0	--	--	na	2.6E+03	--	--	na	2.6E+03	--	--	na	2.6E+02	--	--	na	2.6E+02	--	--	na	2.6E+02
3,3-Dichlorobenzidine ^C	0	--	--	na	7.7E-01	--	--	na	7.7E-01	--	--	na	7.7E-02	--	--	na	7.7E-02	--	--	na	7.7E-02
Dichlorobromomethane ^C	0	--	--	na	4.6E+02	--	--	na	4.6E+02	--	--	na	4.6E+01	--	--	na	4.6E+01	--	--	na	4.6E+01
1,2-Dichloroethane ^C	0	--	--	na	9.9E+02	--	--	na	9.9E+02	--	--	na	9.9E+01	--	--	na	9.9E+01	--	--	na	9.9E+01
1,1-Dichloroethylene	0	--	--	na	1.7E+04	--	--	na	1.7E+04	--	--	na	1.7E+03	--	--	na	1.7E+03	--	--	na	1.7E+03
1,2-trans-dichloroethylene	0	--	--	na	1.4E+05	--	--	na	1.4E+05	--	--	na	1.4E+04	--	--	na	1.4E+04	--	--	na	1.4E+04
2,4-Dichlorophenol	0	--	--	na	7.9E+02	--	--	na	7.9E+02	--	--	na	7.9E+01	--	--	na	7.9E+01	--	--	na	7.9E+01
2,4-Dichlorophenoxy acetic acid (2,4-D)	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
1,2-Dichloropropane ^C	0	--	--	na	3.9E+02	--	--	na	3.9E+02	--	--	na	3.9E+01	--	--	na	3.9E+01	--	--	na	3.9E+01
1,3-Dichloropropene	0	--	--	na	1.7E+03	--	--	na	1.7E+03	--	--	na	1.7E+02	--	--	na	1.7E+02	--	--	na	1.7E+02
Dieldrin ^C	0	2.4E-01	5.6E-02	na	1.4E-03	2.4E-01	5.6E-02	na	1.4E-03	6.0E-02	1.4E-02	na	1.4E-04	6.0E-02	1.4E-02	na	1.4E-04	6.0E-02	1.4E-02	na	1.4E-04
Diethyl Phthalate	0	--	--	na	1.2E+05	--	--	na	1.2E+05	--	--	na	1.2E+04	--	--	na	1.2E+04	--	--	na	1.2E+04
Di-2-Ethylhexyl Phthalate ^C	0	--	--	na	5.9E+01	--	--	na	5.9E+01	--	--	na	5.9E+00	--	--	na	5.9E+00	--	--	na	5.9E+00
2,4-Dimethylphenol	0	--	--	na	2.3E+03	--	--	na	2.3E+03	--	--	na	2.3E+02	--	--	na	2.3E+02	--	--	na	2.3E+02
Dimethyl Phthalate	0	--	--	na	2.9E+06	--	--	na	2.9E+06	--	--	na	2.9E+05	--	--	na	2.9E+05	--	--	na	2.9E+05
Di-n-Butyl Phthalate	0	--	--	na	1.2E+04	--	--	na	1.2E+04	--	--	na	1.2E+03	--	--	na	1.2E+03	--	--	na	1.2E+03
2,4 Dinitrophenol	0	--	--	na	1.4E+04	--	--	na	1.4E+04	--	--	na	1.4E+03	--	--	na	1.4E+03	--	--	na	1.4E+03
2-Methyl-4,6-Dinitrophenol	0	--	--	na	7.65E+02	--	--	na	7.7E+02	--	--	na	7.7E+01	--	--	na	7.7E+01	--	--	na	7.7E+01
2,4-Dinitrotoluene ^C	0	--	--	na	9.1E+01	--	--	na	9.1E+01	--	--	na	9.1E+00	--	--	na	9.1E+00	--	--	na	9.1E+00
Dioxin (2,3,7,8- tetrachlorodibenzo-p- dioxin) (ppq)	0	--	--	na	1.2E-06	--	--	na	na	--	--	na	1.2E-07	--	--	na	1.2E-07	--	--	na	na
1,2-Diphenylhydrazine ^C	0	--	--	na	5.4E+00	--	--	na	5.4E+00	--	--	na	5.4E-01	--	--	na	5.4E-01	--	--	na	5.4E-01
Alpha-Endosulfan	0	2.2E-01	5.6E-02	na	2.4E+02	2.2E-01	5.6E-02	na	2.4E+02	5.5E-02	1.4E-02	na	2.4E+01	5.5E-02	1.4E-02	na	2.4E+01	5.5E-02	1.4E-02	na	2.4E+01
Beta-Endosulfan	0	2.2E-01	5.6E-02	na	2.4E+02	2.2E-01	5.6E-02	na	2.4E+02	5.5E-02	1.4E-02	na	2.4E+01	5.5E-02	1.4E-02	na	2.4E+01	5.5E-02	1.4E-02	na	2.4E+01
Endosulfan Sulfate	0	--	--	na	2.4E+02	--	--	na	2.4E+02	--	--	na	2.4E+01	--	--	na	2.4E+01	--	--	na	2.4E+01
Endrin	0	8.6E-02	3.6E-02	na	8.1E-01	8.6E-02	3.6E-02	na	8.1E-01	2.2E-02	9.0E-03	na	8.1E-02	2.2E-02	9.0E-03	na	8.1E-02	2.2E-02	9.0E-03	na	8.1E-02
Endrin Aldehyde	0	--	--	na	8.1E-01	--	--	na	8.1E-01	--	--	na	8.1E-02	--	--	na	8.1E-02	--	--	na	8.1E-02

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Ethylbenzene	0	--	--	na	2.9E+04	--	--	na	2.9E+04	--	--	na	2.9E+03	--	--	na	2.9E+03	--	--	na	2.9E+03
Fluoranthene	0	--	--	na	3.7E+02	--	--	na	3.7E+02	--	--	na	3.7E+01	--	--	na	3.7E+01	--	--	na	3.7E+01
Fluorene	0	--	--	na	1.4E+04	--	--	na	1.4E+04	--	--	na	1.4E+03	--	--	na	1.4E+03	--	--	na	1.4E+03
Foaming Agents	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Guthion	0	--	1.0E-02	na	--	--	1.0E-02	na	--	--	2.5E-03	na	--	--	2.5E-03	na	--	--	2.5E-03	na	--
Heptachlor ^C	0	5.2E-01	3.8E-03	na	2.1E-03	5.2E-01	3.8E-03	na	2.1E-03	1.3E-01	9.5E-04	na	2.1E-04	1.3E-01	9.5E-04	na	2.1E-04	1.3E-01	9.5E-04	na	2.1E-04
Heptachlor Epoxide ^C	0	5.2E-01	3.8E-03	na	1.1E-03	5.2E-01	3.8E-03	na	1.1E-03	1.3E-01	9.5E-04	na	1.1E-04	1.3E-01	9.5E-04	na	1.1E-04	1.3E-01	9.5E-04	na	1.1E-04
Hexachlorobenzene ^C	0	--	--	na	7.7E-03	--	--	na	7.7E-03	--	--	na	7.7E-04	--	--	na	7.7E-04	--	--	na	7.7E-04
Hexachlorobutadiene ^C	0	--	--	na	5.0E+02	--	--	na	5.0E+02	--	--	na	5.0E+01	--	--	na	5.0E+01	--	--	na	5.0E+01
Hexachlorocyclohexane	0	--	--	na	1.3E-01	--	--	na	1.3E-01	--	--	na	1.3E-02	--	--	na	1.3E-02	--	--	na	1.3E-02
Alpha-BHC ^C		--	--	na	1.3E-01	--	--	na	1.3E-01	--	--	na	1.3E-02	--	--	na	1.3E-02	--	--	na	1.3E-02
Hexachlorocyclohexane		--	--	na	4.6E-01	--	--	na	4.6E-01	--	--	na	4.6E-02	--	--	na	4.6E-02	--	--	na	4.6E-02
Beta-BHC ^C	0	--	--	na	4.6E-01	--	--	na	4.6E-01	--	--	na	4.6E-02	--	--	na	4.6E-02	--	--	na	4.6E-02
Hexachlorocyclohexane	0	9.5E-01	na	na	6.3E-01	9.5E-01	--	na	6.3E-01	2.4E-01	--	na	6.3E-02	2.4E-01	--	na	6.3E-02	2.4E-01	--	na	6.3E-02
Gamma-BHC ^C (Lindane)		9.5E-01	na	na	6.3E-01	9.5E-01	--	na	6.3E-01	2.4E-01	--	na	6.3E-02	2.4E-01	--	na	6.3E-02	2.4E-01	--	na	6.3E-02
Hexachlorocyclopentadiene	0	--	--	na	1.7E+04	--	--	na	1.7E+04	--	--	na	1.7E+03	--	--	na	1.7E+03	--	--	na	1.7E+03
Hexachloroethane ^C	0	--	--	na	8.9E+01	--	--	na	8.9E+01	--	--	na	8.9E+00	--	--	na	8.9E+00	--	--	na	8.9E+00
Hydrogen Sulfide	0	--	2.0E+00	na	--	--	2.0E+00	na	--	--	5.0E-01	na	--	--	5.0E-01	na	--	--	5.0E-01	na	--
Indeno (1,2,3-cd) pyrene ^C	0	--	--	na	4.9E-01	--	--	na	4.9E-01	--	--	na	4.9E-02	--	--	na	4.9E-02	--	--	na	4.9E-02
Iron	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Isophorone ^C	0	--	--	na	2.6E+04	--	--	na	2.6E+04	--	--	na	2.6E+03	--	--	na	2.6E+03	--	--	na	2.6E+03
Kepone	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	0.0E+00	na	--	--	0.0E+00	na	--	--	0.0E+00	na	--
Lead	0	4.9E+01	5.6E+00	na	--	4.9E+01	5.6E+00	na	--	1.2E+01	1.4E+00	na	--	1.2E+01	1.4E+00	na	--	1.2E+01	1.4E+00	na	--
Malathion	0	--	1.0E-01	na	--	--	1.0E-01	na	--	--	2.5E-02	na	--	--	2.5E-02	na	--	--	2.5E-02	na	--
Manganese	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Mercury	0	1.4E+00	7.7E-01	na	5.1E-02	1.4E+00	7.7E-01	na	5.1E-02	3.5E-01	1.9E-01	na	5.1E-03	3.5E-01	1.9E-01	na	5.1E-03	3.5E-01	1.9E-01	na	5.1E-03
Methyl Bromide	0	--	--	na	4.0E+03	--	--	na	4.0E+03	--	--	na	4.0E+02	--	--	na	4.0E+02	--	--	na	4.0E+02
Methoxychlor	0	--	3.0E-02	na	--	--	3.0E-02	na	--	--	7.5E-03	na	--	--	7.5E-03	na	--	--	7.5E-03	na	--
Mirex	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	0.0E+00	na	--	--	0.0E+00	na	--	--	0.0E+00	na	--
Monochlorobenzene	0	--	--	na	2.1E+04	--	--	na	2.1E+04	--	--	na	2.1E+03	--	--	na	2.1E+03	--	--	na	2.1E+03
Nickel	0	1.0E+02	1.1E+01	na	4.6E+03	1.0E+02	1.1E+01	na	4.6E+03	2.5E+01	2.8E+00	na	4.6E+02	2.5E+01	2.8E+00	na	4.6E+02	2.5E+01	2.8E+00	na	4.6E+02
Nitrate (as N)	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Nitrobenzene	0	--	--	na	1.9E+03	--	--	na	1.9E+03	--	--	na	1.9E+02	--	--	na	1.9E+02	--	--	na	1.9E+02
N-Nitrosodimethylamine ^C	0	--	--	na	8.1E+01	--	--	na	8.1E+01	--	--	na	8.1E+00	--	--	na	8.1E+00	--	--	na	8.1E+00
N-Nitrosodiphenylamine ^C	0	--	--	na	1.6E+02	--	--	na	1.6E+02	--	--	na	1.6E+01	--	--	na	1.6E+01	--	--	na	1.6E+01
N-Nitrosodi-n-propylamine ^C	0	--	--	na	1.4E+01	--	--	na	1.4E+01	--	--	na	1.4E+00	--	--	na	1.4E+00	--	--	na	1.4E+00
Parathion	0	6.5E-02	1.3E-02	na	--	6.5E-02	1.3E-02	na	--	1.6E-02	3.3E-03	na	--	1.6E-02	3.3E-03	na	--	1.6E-02	3.3E-03	na	--
PCB-1016	0	--	1.4E-02	na	--	--	1.4E-02	na	--	--	3.5E-03	na	--	--	3.5E-03	na	--	--	3.5E-03	na	--
PCB-1221	0	--	1.4E-02	na	--	--	1.4E-02	na	--	--	3.5E-03	na	--	--	3.5E-03	na	--	--	3.5E-03	na	--
PCB-1232	0	--	1.4E-02	na	--	--	1.4E-02	na	--	--	3.5E-03	na	--	--	3.5E-03	na	--	--	3.5E-03	na	--
PCB-1242	0	--	1.4E-02	na	--	--	1.4E-02	na	--	--	3.5E-03	na	--	--	3.5E-03	na	--	--	3.5E-03	na	--
PCB-1248	0	--	1.4E-02	na	--	--	1.4E-02	na	--	--	3.5E-03	na	--	--	3.5E-03	na	--	--	3.5E-03	na	--
PCB-1254	0	--	1.4E-02	na	--	--	1.4E-02	na	--	--	3.5E-03	na	--	--	3.5E-03	na	--	--	3.5E-03	na	--
PCB-1260	0	--	1.4E-02	na	--	--	1.4E-02	na	--	--	3.5E-03	na	--	--	3.5E-03	na	--	--	3.5E-03	na	--
PCB Total ^C	0	--	--	na	1.7E-03	--	--	na	1.7E-03	--	--	na	1.7E-04	--	--	na	1.7E-04	--	--	na	1.7E-04

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Pentachlorophenol ^C	0	7.7E-03	5.9E-03	na	8.2E+01	7.7E-03	5.9E-03	na	8.2E+01	1.9E-03	1.5E-03	na	8.2E+00	1.9E-03	1.5E-03	na	8.2E+00	1.9E-03	1.5E-03	na	8.2E+00
Phenol	0	--	--	na	4.6E+06	--	--	na	4.6E+06	--	--	na	4.6E+05	--	--	na	4.6E+05	--	--	na	4.6E+05
Pyrene	0	--	--	na	1.1E+04	--	--	na	1.1E+04	--	--	na	1.1E+03	--	--	na	1.1E+03	--	--	na	1.1E+03
Radionuclides (pCi/l except Beta/Photon)	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Gross Alpha Activity	0	--	--	na	1.5E+01	--	--	na	1.5E+01	--	--	na	1.5E+00	--	--	na	1.5E+00	--	--	na	1.5E+00
Beta and Photon Activity (mrem/yr)	0	--	--	na	4.0E+00	--	--	na	4.0E+00	--	--	na	4.0E-01	--	--	na	4.0E-01	--	--	na	4.0E-01
Strontium-90	0	--	--	na	8.0E+00	--	--	na	8.0E+00	--	--	na	8.0E-01	--	--	na	8.0E-01	--	--	na	8.0E-01
Tritium	0	--	--	na	2.0E+04	--	--	na	2.0E+04	--	--	na	2.0E+03	--	--	na	2.0E+03	--	--	na	2.0E+03
Selenium	0	2.0E+01	5.0E+00	na	1.1E+04	2.0E+01	5.0E+00	na	1.1E+04	5.0E+00	1.3E+00	na	1.1E+03	5.0E+00	1.3E+00	na	1.1E+03	5.0E+00	1.3E+00	na	1.1E+03
Silver	0	1.0E+00	--	na	--	1.0E+00	--	na	--	2.6E-01	--	na	--	2.6E-01	--	na	--	2.6E-01	--	na	--
Sulfate	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
1,1,2,2-Tetrachloroethane ^C	0	--	--	na	1.1E+02	--	--	na	1.1E+02	--	--	na	1.1E+01	--	--	na	1.1E+01	--	--	na	1.1E+01
Tetrachloroethylene ^C	0	--	--	na	8.9E+01	--	--	na	8.9E+01	--	--	na	8.9E+00	--	--	na	8.9E+00	--	--	na	8.9E+00
Thallium	0	--	--	na	6.3E+00	--	--	na	6.3E+00	--	--	na	6.3E-01	--	--	na	6.3E-01	--	--	na	6.3E-01
Toluene	0	--	--	na	2.0E+05	--	--	na	2.0E+05	--	--	na	2.0E+04	--	--	na	2.0E+04	--	--	na	2.0E+04
Total dissolved solids	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Toxaphene ^C	0	7.3E-01	2.0E-04	na	7.5E-03	7.3E-01	2.0E-04	na	7.5E-03	1.8E-01	5.0E-05	na	7.5E-04	1.8E-01	5.0E-05	na	7.5E-04	1.8E-01	5.0E-05	na	7.5E-04
Tributyltin	0	4.6E-01	6.3E-02	na	--	4.6E-01	6.3E-02	na	--	1.2E-01	1.6E-02	na	--	1.2E-01	1.6E-02	na	--	1.2E-01	1.6E-02	na	--
1,2,4-Trichlorobenzene	0	--	--	na	9.4E+02	--	--	na	9.4E+02	--	--	na	9.4E+01	--	--	na	9.4E+01	--	--	na	9.4E+01
1,1,2-Trichloroethane ^C	0	--	--	na	4.2E+02	--	--	na	4.2E+02	--	--	na	4.2E+01	--	--	na	4.2E+01	--	--	na	4.2E+01
Trichloroethylene ^C	0	--	--	na	8.1E+02	--	--	na	8.1E+02	--	--	na	8.1E+01	--	--	na	8.1E+01	--	--	na	8.1E+01
2,4,6-Trichlorophenol ^C	0	--	--	na	6.5E+01	--	--	na	6.5E+01	--	--	na	6.5E+00	--	--	na	6.5E+00	--	--	na	6.5E+00
2-(2,4,5-Trichlorophenoxy) propionic acid (Silvex)	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Vinyl Chloride ^C	0	--	--	na	6.1E+01	--	--	na	6.1E+01	--	--	na	6.1E+00	--	--	na	6.1E+00	--	--	na	6.1E+00
Zinc	0	6.5E+01	6.6E+01	na	6.9E+04	6.5E+01	6.6E+01	na	6.9E+04	1.6E+01	1.6E+01	na	6.9E+03	1.6E+01	1.6E+01	na	6.9E+03	1.6E+01	1.6E+01	na	6.9E+03

Notes:

- All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
- Discharge flow is highest monthly average or Form 2C maximum for Industries and design flow for Municipals
- Metals measured as Dissolved, unless specified otherwise
- "C" indicates a carcinogenic parameter
- Regular WLAs are mass balances (minus background concentration) using the % of stream flow entered above under Mixing Information.
Antidegradation WLAs are based upon a complete mix.
- Antideg. Baseline = (0.25(WQC - background conc.) + background conc.) for acute and chronic
= (0.1(WQC - background conc.) + background conc.) for human health
- WLAs established at the following stream flows: 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens, Harmonic Mean for Carcinogens, and Annual Average for Dioxin. Mixing ratios may be substituted for stream flows where appropriate.

Metal	Target Value (SSTV)
Antimony	4.3E+02
Arsenic	2.3E+01
Barium	na
Cadmium	9.9E-02
Chromium III	6.3E+00
Chromium VI	1.6E+00
Copper	7.0E-01
Iron	na
Lead	8.4E-01
Manganese	na
Mercury	5.1E-03
Nickel	1.7E+00
Selenium	7.5E-01
Silver	1.0E-01
Zinc	6.5E+00

Note: do not use QL's lower than the minimum QL's provided in agency guidance

Analysis of the 605 Village MHP effluent data for Ammonia
Averaging period for standard = 30 days

The statistics for Ammonia are:

Number of values	=	1
Quantification level	=	.2
Number < quantification	=	0
Expected value	=	9
Variance	=	29.16001
C.V.	=	.6
97th percentile	=	21.90076
Statistics used	=	Reasonable potential assumptions - Type 2 data

The WLAs for Ammonia are:

Acute WLA	=	3.60018
Chronic WLA	=	.54825
Human Health WLA	=	----

Limits are based on chronic toxicity and 1 samples/month, 1 samples/week

Maximum daily limit	=	1.106188
Average weekly limit	=	1.106188
Average monthly limit	=	1.106188

Note: The maximum daily limit applies to industrial dischargers
The average weekly limit applies to POTWs
The average monthly limit applies to both.

The Data are

2/11/2009 3:34:52 PM

Facility = Six-O-Five MHP
Chemical = Ammonia
Chronic averaging period = 30
WLAa = 3.6
WLAc = 0.63
Q.L. = .2
samples/mo. = 1
samples/wk. = 1

Summary of Statistics:

observations = 1
Expected Value = 9
Variance = 29.16
C.V. = 0.6
97th percentile daily values = 21.9007
97th percentile 4 day average = 14.9741
97th percentile 30 day average = 10.8544
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

A limit is needed based on Chronic Toxicity
Maximum Daily Limit = 1.27113215885228
Average Weekly limit = 1.27113215885228
Average Monthly Limit = 1.27113215885228

The data are:

REGIONAL MODELING SYSTEM

VERSION 3.2

DATA FILE SUMMARY

THE NAME OF THE DATA FILE IS: NEW605.MOD

THE STREAM NAME IS: South Anna, U.T.
 THE RIVER BASIN IS: York
 THE SECTION NUMBER IS: 3
 THE CLASSIFICATION IS: III

STANDARDS VIOLATED (Y/N) = N
 STANDARDS APPROPRIATE (Y/N) = Y

DISCHARGE WITHIN 3 MILES (Y/N) = N

THE DISCHARGE BEING MODELED IS: 605 Village MHP

PROPOSED ^{dry season} LIMITS ARE:	PROPOSED WET SEASON LIMITS:
FLOW = .04 MGD	FLOW = 0.04 mcd
CBOD5 = 7.5 MG/L	CBOD5 = 23 mg/L
TKN = 3.5 MG/L	TKN = 3.5 mg/L
D.O. = 6.5 MG/L	D.O. = 6.5 mg/L

THE NUMBER OF SEGMENTS TO BE MODELED = 3

7Q10 WILL BE CALCULATED BY: DRAINAGE AREA COMPARISON

THE GAUGE NAME IS: DEQ eval
 GAUGE DRAINAGE AREA = .58 SQ.MI.
 GAUGE 7Q10 = .003 MGD
 DRAINAGE AREA AT DISCHARGE = 0 SQ.MI.

STREAM A DRY DITCH AT DISCHARGE (Y/N) = Y
 ANTIDEGRADATION APPLIES (Y/N) = Y

ALLOCATION DESIGN TEMPERATURE = 20 °C summer
 15 °C winter

SEGMENT INFORMATION

SEGMENT # 1

SEGMENT ENDS BECAUSE: OF A PHYSICAL CHANGE IN STREAM

SEGMENT LENGTH = .7 MI

SEGMENT WIDTH = 2 FT

SEGMENT DEPTH = .2 FT

SEGMENT VELOCITY = .4 FT/SEC

DRAINAGE AREA AT SEGMENT START = 0 SQ.MI.

DRAINAGE AREA AT SEGMENT END = .58 SQ.MI.

ELEVATION AT UPSTREAM END = 410 FT

ELEVATION AT DOWNSTREAM END = 340 FT

THE CROSS SECTION IS: IRREGULAR

THE CHANNEL IS: MODERATELY MEANDERING

POOLS AND RIFFLES (Y/N) = Y

THE SEGMENT LENGTH IS 80 % POOLS

POOL DEPTH = .2 FT

THE SEGMENT LENGTH IS 20 % RIFFLES

RIFFLE DEPTH = .1 FT

THE BOTTOM TYPE = SMALL ROCK

SLUDGE DEPOSITS = NONE

AQUATIC PLANTS = NONE

ALGAE OBSERVED = NONE

WATER COLORED GREEN (Y/N) = N

SEGMENT INFORMATION

SEGMENT # 2

SEGMENT ENDS BECAUSE: OF A PHYSICAL CHANGE IN STREAM

SEGMENT LENGTH = .4 MI

SEGMENT WIDTH = 2.5 FT

SEGMENT DEPTH = .3 FT

SEGMENT VELOCITY = .4 FT/SEC

DRAINAGE AREA AT SEGMENT START = .58 SQ.MI.

DRAINAGE AREA AT SEGMENT END = 1.6 SQ.MI.

ELEVATION AT UPSTREAM END = 340 FT

ELEVATION AT DOWNSTREAM END = 325 FT

THE CROSS SECTION IS: IRREGULAR

THE CHANNEL IS: MODERATELY MEANDERING

POOLS AND RIFFLES (Y/N) = Y

THE SEGMENT LENGTH IS 80 % POOLS

POOL DEPTH = .3 FT

THE SEGMENT LENGTH IS 20 % RIFFLES

RIFFLE DEPTH = .2 FT

THE BOTTOM TYPE = GRAVEL

SLUDGE DEPOSITS = NONE

AQUATIC PLANTS = NONE

ALGAE OBSERVED = NONE

WATER COLORED GREEN (Y/N) = N

SEGMENT INFORMATION

SEGMENT # 3

SEGMENT ENDS BECAUSE: THE MODEL ENDS

SEGMENT LENGTH = 1 MI

SEGMENT WIDTH = 3 FT

SEGMENT DEPTH = .3 FT

SEGMENT VELOCITY = .4 FT/SEC

DRAINAGE AREA AT SEGMENT START = 1.6 SQ.MI.

DRAINAGE AREA AT SEGMENT END = 2.9 SQ.MI.

ELEVATION AT UPSTREAM END = 325 FT

ELEVATION AT DOWNSTREAM END = 295 FT

THE CROSS SECTION IS: IRREGULAR

THE CHANNEL IS: MODERATELY MEANDERING

POOLS AND RIFFLES (Y/N) = Y

THE SEGMENT LENGTH IS 90 % POOLS

POOL DEPTH = .3 FT

THE SEGMENT LENGTH IS 10 % RIFFLES

RIFFLE DEPTH = .1 FT

THE BOTTOM TYPE = SILT

SLUDGE DEPOSITS = NONE

AQUATIC PLANTS = NONE

ALGAE OBSERVED = NONE

WATER COLORED GREEN (Y/N) = N

REGIONAL MODELING SYSTEM

Ver 3.2 (OWRM - 9/90)

03-02-1999 10:51:05

REGIONAL MODELING SYSTEM VERSION 3.2

MODEL SIMULATION FOR THE 605 Village MHP DISCHARGE
TO South Anna, U.T.

THE SIMULATION STARTS AT THE 605 Village MHP DISCHARGE

***** PROPOSED PERMIT LIMITS *****

FLOW = .04 MGD cBOD5 = 7.5 Mg/L TKN = 3.5 Mg/L D.O. = 6.5 Mg/L

**** THE MAXIMUM CHLORINE ALLOWABLE IN THE DISCHARGE IS 0.011 Mg/L ****

THE SECTION BEING MODELED IS BROKEN INTO 3 SEGMENTS
RESULTS WILL BE GIVEN AT 0.1 MILE INTERVALS

***** BACKGROUND CONDITIONS *****

THE 7Q10 STREAM FLOW AT THE DISCHARGE IS 0.00000 MGD
THE DISSOLVED OXYGEN OF THE STREAM IS 8.080 Mg/L
THE BACKGROUND cBODu OF THE STREAM IS 5 Mg/L
THE BACKGROUND nBOD OF THE STREAM IS 0 Mg/L

***** MODEL PARAMETERS *****

SEG.	LEN. Mi	VEL. F/S	K2 1/D	K1 1/D	KN 1/D	BENTHIC Mg/L	ELEV. Ft	TEMP. °C	DO-SAT Mg/L
1	0.70	0.469	20.000	1.000	0.350	0.000	375.00	20.00	8.977
2	0.40	0.455	20.000	1.000	0.300	0.000	332.50	20.00	8.991
3	1.00	0.479	18.000	1.000	0.250	0.000	310.00	20.00	8.998

(The K Rates shown are at 20°C ... the model corrects them for temperature.)

RESPONSE FOR SEGMENT 1

TOTAL STREAMFLOW = 0.0400 MGD
(Including Discharge)

DISTANCE FROM HEAD OF SEGMENT (MI.)	TOTAL DISTANCE FROM MODEL BEGINNING (MI.)	DISSOLVED OXYGEN (Mg/L)	cBODu (Mg/L)	nBODu (Mg/L)
-----	-----	-----	-----	-----
0.000	0.000	6.500	18.750	2.165
0.100	0.100	6.846	18.507	2.155
0.200	0.200	7.115	18.268	2.145
0.300	0.300	7.326	18.031	2.135
0.400	0.400	7.491	17.798	2.126
0.500	0.500	7.620	17.567	2.116
0.600	0.600	7.723	17.340	2.106
0.700	0.700	7.805	17.115	2.097

FLOW FROM INCREMENTAL DRAINAGE AREA = 0.0030 MGD

RESPONSE FOR SEGMENT 2

TOTAL STREAMFLOW = 0.0430 MGD
(Including Discharge, Tributaries and Incremental D.A. Flow)

DISTANCE FROM HEAD OF SEGMENT (MI.)	TOTAL DISTANCE FROM MODEL BEGINNING (MI.)	DISSOLVED OXYGEN (Mg/L)	cBODu (Mg/L)	nBODu (Mg/L)
0.000	0.700	★ 7.824 ★	16.270	1.951
0.100	0.800	7.902	16.053	1.943
0.200	0.900	7.964	15.839	1.935
0.300	1.000	8.013	15.628	1.927
0.400	1.100	8.054	15.419	1.919

FLOW FROM INCREMENTAL DRAINAGE AREA = 0.0053 MGD

★ D.O. ANTI-DEG. BASELINE

RESPONSE FOR SEGMENT 3

TOTAL STREAMFLOW = 0.0483 MGD
(Including Discharge, Tributaries and Incremental D.A. Flow)

DISTANCE FROM HEAD OF SEGMENT (MI.)	TOTAL DISTANCE FROM MODEL BEGINNING (MI.)	DISSOLVED OXYGEN (Mg/L)	cBODu (Mg/L)	nBODu (Mg/L)
0.000	1.100	8.058	14.281	1.710
0.100	1.200	8.084	14.100	1.704
0.200	1.300	8.098	13.921	1.699
0.300	1.400	8.098	13.744	1.694
0.400	1.500	8.098	13.570	1.688
0.500	1.600	8.098	13.398	1.683
0.600	1.700	8.098	13.228	1.677
0.700	1.800	8.098	13.060	1.672
0.800	1.900	8.098	12.895	1.667
0.900	2.000	8.098	12.731	1.661
1.000	2.100	8.098	12.570	1.656

REGIONAL MODELING SYSTEM
03-05-1999 09:05:05

Ver 3.2 (OWRM - 9/90)

DATA FILE = NEW605S2.MOD

REGIONAL MODELING SYSTEM VERSION 3.2

MODEL SIMULATION FOR THE 605 Village MHP DISCHARGE

TO South Anna, U.T.

SEASONAL LIMITS RUN - - WET SEASON PERIOD: November TO April

THE SIMULATION STARTS AT THE 605 Village MHP DISCHARGE

***** PROPOSED PERMIT LIMITS *****

FLOW = .04 MGD cBOD5 = 23 Mg/L TKN = 3.5 Mg/L D.O. = 6.5 Mg/L

**** THE MAXIMUM CHLORINE ALLOWABLE IN THE DISCHARGE IS 0.011 Mg/L ****

THE SECTION BEING MODELED IS BROKEN INTO 3 SEGMENTS
RESULTS WILL BE GIVEN AT 0.1 MILE INTERVALS

***** BACKGROUND CONDITIONS *****

THE WET SEASON 7Q10 STREAM FLOW

AT THE DISCHARGE IS 0.00000 MGD

THE DISSOLVED OXYGEN OF THE STREAM IS 8.936 Mg/L

THE BACKGROUND cBODu OF THE STREAM IS 5 Mg/L

THE BACKGROUND nBOD OF THE STREAM IS 0 Mg/L

***** MODEL PARAMETERS *****

SEG.	LEN. Mi	VEL. F/S	K2 1/D	K1, 1/D	KN 1/D	BENTHIC Mg/L	ELEV. Ft	TEMP. °C	DO-SAT Mg/L
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
1	0.70	0.469	20.000	1.400	0.350	0.000	375.00	15.00	9.929
2	0.40	0.455	20.000	1.400	0.300	0.000	332.50	15.00	9.944
3	1.00	0.479	18.000	1.400	0.250	0.000	310.00	15.00	9.952

(The K Rates shown are at 20°C ... the model corrects them for temperature.)

RESPONSE FOR SEGMENT 1

TOTAL STREAMFLOW = 0.0400 MGD
(Including Discharge)

DISTANCE FROM HEAD OF SEGMENT (MI.)	TOTAL DISTANCE FROM MODEL BEGINNING (MI.)	DISSOLVED OXYGEN (Mg/L)	cBODu (Mg/L)	nBODu (Mg/L)
-----	-----	-----	-----	-----
0.000	0.000	6.500	57.500	2.165
0.100	0.100	6.464	56.672	2.158
0.200	0.200	6.446	55.857	2.152
0.300	0.300	6.442	55.053	2.145
0.400	0.400	6.449	54.260	2.138
0.500	0.500	6.465	53.479	2.132
0.600	0.600	6.488	52.709	2.125
0.700	0.700	6.516	51.951	2.118

FLOW FROM INCREMENTAL DRAINAGE AREA = 0.0540 MGD

RESPONSE FOR SEGMENT 2

TOTAL STREAMFLOW = 0.0940 MGD
(Including Discharge, Tributaries and Incremental D.A. Flow)

DISTANCE FROM HEAD OF SEGMENT (MI.)	TOTAL DISTANCE FROM MODEL BEGINNING (MI.)	DISSOLVED OXYGEN (Mg/L)	cBODu (Mg/L)	nBODu (Mg/L)
0.000	0.700	7.906	24.979	0.901
0.100	0.800	8.007	24.609	0.899
0.200	0.900	8.091	24.244	0.896
0.300	1.000	8.162	23.884	0.894
0.400	1.100	8.223	23.530	0.892



ANTIDEGRADATION IS VIOLATED IN THIS SEGMENT

FLOW FROM INCREMENTAL DRAINAGE AREA = 0.0950 MGD

★ ANTIDEG. NOT VIOLATED BECAUSE 7.906 mg/l D.O.
is within 0.2 mg/L OF THE BACKGROUND
D.O. IN THE DRY SEASON MODEL.

RESPONSE FOR SEGMENT 3

TOTAL STREAMFLOW = 0.1890 MGD
(Including Discharge, Tributaries and Incremental D.A. Flow)

DISTANCE FROM HEAD OF SEGMENT (MI.)	TOTAL DISTANCE FROM MODEL BEGINNING (MI.)	DISSOLVED OXYGEN (Mg/L)	cBODu (Mg/L)	nBODu (Mg/L)
0.000	1.100	8.588	14.218	0.444
0.100	1.200	8.658	14.017	0.442
0.200	1.300	8.717	13.820	0.442
0.300	1.400	8.767	13.625	0.440
0.400	1.500	8.811	13.433	0.440
0.500	1.600	8.850	13.243	0.438
0.600	1.700	8.883	13.057	0.438
0.700	1.800	8.913	12.873	0.437
0.800	1.900	8.940	12.691	0.436
0.900	2.000	8.957	12.512	0.435
1.000	2.100	8.957	12.336	0.434

ANTIDegradation IS VIOLATED IN THIS SEGMENT

REGIONAL MODELING SYSTEM
03-16-1999 11:45:04

Ver 3.2 (OWRM - 9/90)

DATA FILE = FINAL605.MOD

Public Notice – Environmental Permit

PURPOSE OF NOTICE: To seek public comment on a draft permit from the Department of Environmental Quality that will allow the release of treated wastewater into a water body in Louisa County, Virginia.

PUBLIC COMMENT PERIOD: TBD 2009 to 5:00 p.m. on TBD 2009

PERMIT NAME: Virginia Pollutant Discharge Elimination System Permit – Wastewater issued by DEQ, under the authority of the State Water Control Board

APPLICANT NAME, ADDRESS AND PERMIT NUMBER: SMG LLC
P.O. Box 70367, Richmond, VA 23255
VA0090140

NAME AND ADDRESS OF FACILITY: Six-O-Five Mobile Home Park STP
Route 605, 0.3 miles NE of State Highway 33, Louisa County, VA

PROJECT DESCRIPTION: SMG LLC has applied for a reissuance of a permit for the private Six-O-Five Mobile Home Park STP. The applicant proposes to release treated sewage wastewaters from a mobile home park at a rate of 0.040 million gallons per day into a water body. Sludge from the treatment process will be transported to the Little Falls Run WWTF (VA0076392) for final disposal. The facility proposes to release the treated sewage in the South Anna River, UT, in Louisa County in the York River watershed. A watershed is the land area drained by a river and its incoming streams. The permit will limit the following pollutants to amounts that protect water quality: pH, cBOD, TSS, DO, Ammonia and *E. coli*.

HOW TO COMMENT AND/OR REQUEST A PUBLIC HEARING: DEQ accepts comments and requests for public hearing by e-mail, fax or postal mail. All comments and requests must be in writing and be received by DEQ during the comment period. Submittals must include the names, mailing addresses and telephone numbers of the commenter/requester and of all persons represented by the commenter/requester. A request for public hearing must also include: 1) The reason why a public hearing is requested. 2) A brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requestor, including how and to what extent such interest would be directly and adversely affected by the permit. 3) Specific references, where possible, to terms and conditions of the permit with suggested revisions. DEQ may hold a public hearing, including another comment period, if public response is significant and there are substantial, disputed issues relevant to the permit.

CONTACT FOR PUBLIC COMMENTS, DOCUMENT REQUESTS AND ADDITIONAL INFORMATION: The public may review the documents at the DEQ-Northern Regional Office by appointment.

Name: Douglas Frasier

Address: DEQ-Northern Regional Office, 13901 Crown Court, Woodbridge, VA 22193

Phone: (703) 583-3873 E-mail: ddfrasier@deq.virginia.gov Fax: (703) 583-3821

Revised 2/2003

**State "Transmittal Checklist" to Assist in Targeting
Municipal and Industrial Individual NPDES Draft Permits for Review**

Part I. State Draft Permit Submission Checklist

In accordance with the MOA established between the Commonwealth of Virginia and the United States Environmental Protection Agency, Region III, the Commonwealth submits the following draft National Pollutant Discharge Elimination System (NPDES) permit for Agency review and concurrence.

Facility Name:	Six-O-Five Mobile Home Park STP
NPDES Permit Number:	VA0090140
Permit Writer Name:	Douglas Frasier
Date:	13 February 2009

Major ☐

Minor ☒

Industrial ☐

Municipal ☒

I.A. Draft Permit Package Submittal Includes:

	Yes	No	N/A
1. Permit Application?	X		
2. Complete Draft Permit (for renewal or first time permit – entire permit, including boilerplate information)?	X		
3. Copy of Public Notice?	X		
4. Complete Fact Sheet?	X		
5. A Priority Pollutant Screening to determine parameters of concern?	X		
6. A Reasonable Potential analysis showing calculated WQBELs?	X		
7. Dissolved Oxygen calculations?	X		
8. Whole Effluent Toxicity Test summary and analysis?			X
9. Permit Rating Sheet for new or modified industrial facilities?			X

I.B. Permit/Facility Characteristics

	Yes	No	N/A
1. Is this a new or currently unpermitted facility?		X	
2. Are all permissible outfalls (including combined sewer overflow points, non-process water and storm water) from the facility properly identified and authorized in the permit?	X		
3. Does the fact sheet or permit contain a description of the wastewater treatment process?	X		
4. Does the review of PCS/DMR data for at least the last 3 years indicate significant non-compliance with the existing permit?		X	
5. Has there been any change in streamflow characteristics since the last permit was developed?		X	
6. Does the permit allow the discharge of new or increased loadings of any pollutants?		X	
7. Does the fact sheet or permit provide a description of the receiving water body(s) to which the facility discharges, including information on low/critical flow conditions and designated/existing uses?	X		
8. Does the facility discharge to a 303(d) listed water?		X	
a. Has a TMDL been developed and approved by EPA for the impaired water? (Downstream)	X		
b. Does the record indicate that the TMDL development is on the State priority list and will most likely be developed within the life of the permit?			X
c. Does the facility discharge a pollutant of concern identified in the TMDL or 303(d) listed water?	X		
9. Have any limits been removed, or are any limits less stringent, than those in the current permit?		X	
10. Does the permit authorize discharges of storm water?		X	

I.B. Permit/Facility Characteristics – cont.	Yes	No	N/A
11. Has the facility substantially enlarged or altered its operation or substantially increased its flow or production?		X	
12. Are there any production-based, technology-based effluent limits in the permit?		X	
13. Do any water quality-based effluent limit calculations differ from the State's standard policies or procedures?		X	
14. Are any WQBELs based on an interpretation of narrative criteria?	X		
15. Does the permit incorporate any variances or other exceptions to the State's standards or regulations?		X	
16. Does the permit contain a compliance schedule for any limit or condition?		X	
17. Is there a potential impact to endangered/threatened species or their habitat by the facility's discharge(s)?		X	
18. Have impacts from the discharge(s) at downstream potable water supplies been evaluated?	X		
19. Is there any indication that there is significant public interest in the permit action proposed for this facility?		X	
20. Have previous permit, application, and fact sheet been examined?		X	

Part II. NPDES Draft Permit Checklist

Region III NPDES Permit Quality Checklist – for POTWs (To be completed and included in the record only for POTWs)

II.A. Permit Cover Page/Administration	Yes	No	N/A
1. Does the fact sheet or permit describe the physical location of the facility, including latitude and longitude (not necessarily on permit cover page)?	X		
2. Does the permit contain specific authorization-to-discharge information (from where to where, by whom)?	X		

II.B. Effluent Limits – General Elements	Yes	No	N/A
1. Does the fact sheet describe the basis of final limits in the permit (e.g., that a comparison of technology and water quality-based limits was performed, and the most stringent limit selected)?	X		
2. Does the fact sheet discuss whether “antibacksliding” provisions were met for any limits that are less stringent than those in the previous NPDES permit?			X

II.C. Technology-Based Effluent Limits (POTWs)	Yes	No	N/A
1. Does the permit contain numeric limits for <u>ALL</u> of the following: BOD (or alternative, e.g., CBOD, COD, TOC), TSS, and pH?	X		
2. Does the permit require at least 85% removal for BOD (or BOD alternative) and TSS (or 65% for equivalent to secondary) consistent with 40 CFR Part 133?	X		
a. If no, does the record indicate that application of WQBELs, or some other means, results in more stringent requirements than 85% removal or that an exception consistent with 40 CFR 133.103 has been approved?			X
3. Are technology-based permit limits expressed in the appropriate units of measure (e.g., concentration, mass, SU)?	X		
4. Are permit limits for BOD and TSS expressed in terms of both long term (e.g., average monthly) and short term (e.g., average weekly) limits?	X		
5. Are any concentration limitations in the permit less stringent than the secondary treatment requirements (30 mg/l BOD5 and TSS for a 30-day average and 45 mg/l BOD5 and TSS for a 7-day average)?		X	
a. If yes, does the record provide a justification (e.g., waste stabilization pond, trickling filter, etc.) for the alternate limitations?			X

II.D. Water Quality-Based Effluent Limits	Yes	No	N/A
1. Does the permit include appropriate limitations consistent with 40 CFR 122.44(d) covering State narrative and numeric criteria for water quality?	X		
2. Does the fact sheet indicate that any WQBELs were derived from a completed and EPA approved TMDL?	X		
3. Does the fact sheet provide effluent characteristics for each outfall?	X		
4. Does the fact sheet document that a “reasonable potential” evaluation was performed?	X		
a. If yes, does the fact sheet indicate that the “reasonable potential” evaluation was performed in accordance with the State’s approved procedures?	X		
b. Does the fact sheet describe the basis for allowing or disallowing in-stream dilution or a mixing zone?			X
c. Does the fact sheet present WLA calculation procedures for all pollutants that were found to have “reasonable potential”?	X		
d. Does the fact sheet indicate that the “reasonable potential” and WLA calculations accounted for contributions from upstream sources (i.e., do calculations include ambient/background concentrations)?			X
e. Does the permit contain numeric effluent limits for all pollutants for which “reasonable potential” was determined?	X		

II.D. Water Quality-Based Effluent Limits – cont.	Yes	No	N/A
5. Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the fact sheet?	X		
6. For all final WQBELs, are BOTH long-term AND short-term effluent limits established?	X		
7. Are WQBELs expressed in the permit using appropriate units of measure (e.g., mass, concentration)?	X		
8. Does the record indicate that an “antidegradation” review was performed in accordance with the State’s approved antidegradation policy?	X		

II.E. Monitoring and Reporting Requirements	Yes	No	N/A
1. Does the permit require at least annual monitoring for all limited parameters and other monitoring as required by State and Federal regulations?	X		
a. If no, does the fact sheet indicate that the facility applied for and was granted a monitoring waiver, AND, does the permit specifically incorporate this waiver?			
2. Does the permit identify the physical location where monitoring is to be performed for each outfall?	X		
3. Does the permit require at least annual influent monitoring for BOD (or BOD alternative) and TSS to assess compliance with applicable percent removal requirements?	X		
4. Does the permit require testing for Whole Effluent Toxicity?		X	

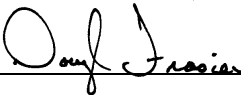
II.F. Special Conditions	Yes	No	N/A
1. Does the permit include appropriate biosolids use/disposal requirements?			X
2. Does the permit include appropriate storm water program requirements?			X

II.F. Special Conditions – cont.	Yes	No	N/A
3. If the permit contains compliance schedule(s), are they consistent with statutory and regulatory deadlines and requirements?			X
4. Are other special conditions (e.g., ambient sampling, mixing studies, TIE/TRE, BMPs, special studies) consistent with CWA and NPDES regulations?			X
5. Does the permit allow/authorize discharge of sanitary sewage from points other than the POTW outfall(s) or CSO outfalls [i.e., Sanitary Sewer Overflows (SSOs) or treatment plant bypasses]?		X	
6. Does the permit authorize discharges from Combined Sewer Overflows (CSOs)?			X
a. Does the permit require implementation of the “Nine Minimum Controls”?			X
b. Does the permit require development and implementation of a “Long Term Control Plan”?			X
c. Does the permit require monitoring and reporting for CSO events?			X
7. Does the permit include appropriate Pretreatment Program requirements?			X

II.G. Standard Conditions	Yes	No	N/A
1. Does the permit contain all 40 CFR 122.41 standard conditions or the State equivalent (or more stringent) conditions?	X		
List of Standard Conditions – 40 CFR 122.41			
Duty to comply	Property rights	Reporting Requirements	
Duty to reapply	Duty to provide information	Planned change	
Need to halt or reduce activity	Inspections and entry	Anticipated noncompliance	
not a defense	Monitoring and records	Transfers	
Duty to mitigate	Signatory requirement	Monitoring reports	
Proper O & M	Bypass	Compliance schedules	
Permit actions	Upset	24-Hour reporting	
		Other non-compliance	
2. Does the permit contain the additional standard condition (or the State equivalent or more stringent conditions) for POTWs regarding notification of new introduction of pollutants and new industrial users [40 CFR 122.42(b)]?	X		

Part III. Signature Page

Based on a review of the data and other information submitted by the permit applicant, and the draft permit and other administrative records generated by the Department/Division and/or made available to the Department/Division, the information provided on this checklist is accurate and complete, to the best of my knowledge.

Name	<u>Douglas Frasier</u>
Title	<u>Environmental Specialist II</u>
Signature	<u></u>
Date	<u>13 February 2009</u>